

Claims

1. A method, for use in a virus-free certificate authority (102), of generating a virus-free certificate (200) certifying that a file is virus-free comprising the steps of:

- receiving (300) a virus-free certificate request for a file from a system (100, 101);
- determining (301) whether the file is virus-free or not;

if the file is declared virus-free by the virus-free certificate authority (102):

- generating (303, 304) a virus-free certificate (200) comprising a file signature (207) for certifying that said file is declared virus-free by the virus-free certificate authority (102);
- sending (306) back in response to the virus-free certificate request the virus-free certificate (200).

2. The method according to ~~the preceding claim~~ ^{claim 1} wherein the virus-free certificate request comprises:

- a list of one or a plurality of anti-virus programs to execute on the file to determine whether the file is virus-free or not.

3. The method according to ~~any one of the preceding claims~~ ^{claim 1} wherein the virus-free certificate request comprises:

- ~~the~~ ^a file for which a virus-free certificate is requested.

4. The method according to ~~any one of the preceding claims~~ ^{claim 1} wherein said step of determining whether the file is virus-free or not comprises the further step of:

- executing (301) one or a plurality of anti-virus programs on said file for detecting viruses.

5. The method according to ^{claim 1} ~~any one of the preceding claims~~ wherein the virus-free certificate further comprises:

- ^a ~~the~~ list of the one or plurality of anti-virus programs (208) that have been executed on the file.

6. The method according to ^{claim 1} ~~any one of the preceding claims~~ wherein the virus-free certificate (200) further comprises:

- a file identification (201);
- a virus-free certificate authority identification (202);
- a public key (203) for decrypting the file signature;
- a certificate signature (206) for authenticating the virus-free certificate;
- a indication of the virus-free certificate validity (204).

7. The method according to ^{claim 1} ~~any one of the preceding claims~~ comprising the further steps (305) of:

- identifying the system (100, 101) where the file and associated virus-free certificate are stored;
- downloading updates of the virus-free certificate.

8. The method according to ^{claim 1} ~~any one of the preceding claims~~ wherein the step of generating (303, 304) a file signature (207) comprises the further steps of:

- hashing the file to generate a file digest;
- encrypting the file digest using a private key.

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9. A system, preferably a virus-free certificate authority (102), for carrying out the method according to any one of the preceding claims.

10. A computer program comprising instructions for carrying out the method according to any one of claims 1 to 8.

11. A method, for use in a server (101) or client (100) system, of determining that a file is virus-free comprising the steps of:

- determining (400) whether a virus-free certificate (200) is associated with a file;

if a virus-free certificate is associated with the file:

- authenticating (404) the virus-free certificate (200), said virus-free certificate comprising a certificate signature (206);
- authenticating (407) the file, said virus-free certificate (200) comprising a file signature (207), said file signature certifying that said file has been declared virus-free by a virus-free certificate authority (102).

12. The method according to the preceding claim wherein said step of authenticating (407) the file comprises the further steps of:

- decrypting the file signature (207) using a public key (203) comprised in the virus-free certificate (200).
- hashing the file to generate a file digest;
- comparing the decrypted file signature with the generated file digest.

13. The method according to any one of claims 11 to 12 wherein the step of authenticating the virus-free certificate comprises the further step of:

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- validating the virus-free certificate.

a 14. The method according to ^{claim 14}~~any one of claims 11 to 13~~ wherein the step of validating the virus-free certificate comprises the further step of:

- determining whether the virus-free certificate is valid or not;

If the virus-free certificate is not valid:

- requesting a virus-free certificate update or an updated virus-free certificate update to a virus-free certificate authority (102).

a 15. The method according to ^{claim 11}~~any one of the claims 11 to 14~~ wherein the virus-free certificate (200) further comprises:

- a file identification (201);
- a virus-free certificate authority identification (202);
- a public key (203) for decrypting the file signature;
- a indication of the virus-free certificate validity (204).

Sub a3 16. A system, preferably a server (101) or client (100) system, for carrying out the method according to any one of claims 11 to 15.

17. A computer program comprising instructions for carrying out the method according to any one of claims 11 to 15.